TRANSPORTATION

Maintenance of public spaces near transit stations is an important priority.

Transportation

Much of the city's liveability stems from its walkable pattern of development, characterized by well-defined neighborhoods and squares that are connected by pleasant streets. Additionally, the transit and bus systems enable people to move easily around the city and to points beyond. Nevertheless, the impact of the automobile on the community is always a concern. As put forth in Policy 14, the City has taken many steps to adddress the issue of automobile use, as well as to encourage non-automobile travel.

Cambridge's transportation planning and policies are guided by the Vehicle Trip Reduction Ordinance (VTRO), adopted by the City Council in 1992, which outlines strategies to reduce the amount of drive-alone traffic, consistent with the range of policies articulated in the original growth policy document.

Land Use and Transportation

In the fall of 1997, the City embarked upon the Citywide Growth Management process that resulted in the Citywide Rezoning of 2001. One of the major issues addressed during this process was future building density and associated traffic growth. As suggested in Policy 15, transportation impacts of various land uses were considered in detail during this study by analyzing anticipated new trips and projected impacts on traffic operations.

To address the cumulative impacts of development, Citywide Rezoning changes reduced permitted commercial densities by approximately a third throughout the city, particularly in areas far from transit stations, reinforcing the transit-oriented pattern of development in Cambridge. Housing incentives were created during this process, reflecting the lower trip generation rates for housing, in an effort to reduce traffic growth. Additionally, the Citywide rezoning also lowered maximum parking limits for some uses to reduce the abundance of parking, which serves as an incentive to drive alone.

The Citywide rezoning also resulted in adoption of a project review special permit for all significant projects throughout the city. This is intended to address project-specific transportation and urban design impacts of development. This review, generally affecting projects with over 50,000 square feet of floor area, requires a detailed traffic study identifying the transportation impacts of the project. The project's impacts on traffic volumes, roadway and intersection operations, and bicycles and pedestrian facilities are evaluated. Mitigation of any substantial adverse impacts is then required by the special permit.

Subsequent land use studies for Eastern Cambridge, Riverside, and the Concord-Alewife area have all been informed by transportation analyses to evaluate various land use scenarios and compare them to the development that might occur if no regulatory changes were made. The Eastern Cambridge Rezoning of 2001 set the

Policy 14

Increase the City's investment in Transportation Demand Management to promote non single occupancy vehicle forms of transportation and assist Cambridge employers, both individually and collectively, in developing such programs for their employees and operations.

Policy 15

Enact land use regulations that encourage transit and other forms of nonautomobile mobility by mixing land uses, creating a pleasant and safe pedestrian and bicycle environment, and restricting high density development to areas near transit stations.

The Minuteman Bikeway begins in Alewife, in the westernmost corner of Cambridge; it will eventually be connected via Somerville to North Point, in the easternmost corner of Cambridge, following rail rights of way.

Policy 16

Encourage regional employment patterns that take advantage of areas well served by transit to and from Cambridge.

Policy 17

Seek implementation of MBTA transit improvements that will provide more direct and, where demand is justified, express service to Cambridge from those portions of the region now inadequately served by transit to Cambridge.

stage for a development plan at North Point, which over the long term, will have significant impacts in the eastern part of the City. Consistent with Policy 17, the project will move Lechmere Station to the north of Msgr. O'Brien Highway, allowing the MBTA to extend the Green Line to Somerville and Medford. This will also improve transit access to and from North Point.

In addition, the North Point project will improve pedestrian crossings of O'Brien Highway, connecting North Point to the rest of Cambridge and providing pedestrian access to the Orange Line across the Gilmore Bridge. Further, it will create a multi-use path through the site, a key part of a regional bike and pedestrian network. The Eastern Cambridge Planning Study and the North Point master plan have put in place design guidelines for future projects in the area to create active, pedestrian-friendly environments and encourage responsiveness to pedestrian, bicycle, and transit facilities in building and site design.

Transportation Demand Management

Cambridge has developed a Transportation Demand Management (TDM) program to promote sustainable forms of transportation, as called for in Policy 14. TDM combines marketing and incentive programs aimed at reducing the use of single-occupancy vehicles (SOVs). The goals of the City's TDM programs are to improve mobility and access, reduce congestion and air pollution, and increase safety. These programs work to reduce the level of drive-alone travel by promoting walking, bicycling, carpooling, vanpooling, public transportation, and other sustainable modes. The City works cooperatively with citizens, businesses, and institutions in Cambridge and the Boston area to implement TDM measures. Additionally, the City encourages its own employees to commute to work by means other than SOV car trips and offers a variety of incentives.

In 1998 the City adopted the Parking and Transportation Demand Management (PTDM) Ordinance, which requires preparation of an approved PTDM plan for projects which include the addition of non-residential parking facilities or additions to existing ones. An ongoing reporting requirement is always an element of PTDM plans.

Bicycle and Pedestrian Program

The VTRO mandates a formal and permanent City bicycle and pedestrian program. Not only do these modes of travel reduce automobile congestion, they also greatly improve public health by reducing pollution and providing exercise for the participants. The City's Bicycle and Pedestrian Committees initiate and implement policies and programs aimed at improving conditions for bicycles and pedestrians. In 2000, the City adopted a Pedestrian Plan outlining the role walking should play in Cambridge, describing current City policies and projects, and suggesting the direction of future pedestrian improvements.

There are now 30 miles of bicycle facilities in Cambridge, including almost 10 miles of bike lanes. Cambridge requires any new street system to accommodate pedestrians and bicyclists, as well as cars, safely and comfortably. For example, the North Point project is obligated to incorporate bike lanes on major streets and create a multi-use path that would connect to the DCR path along the Charles River and to the planned Somerville Community Bike Path. This new path will serve as an important link providing the opportunity for dedicated non-automobile regional connections between Cambridge, Boston, Arlington, Lexington, Bedford, Watertown, and Waltham.

Underutilized rail corridors, such as the Watertown Branch in West Cambridge, offer opportunities for future use as multi-use trails. A feasibility study to evaluate use of the Grand Junction rail corridor in eastern Cambridge as a shared facility to accommodate bicycles and pedestrians was completed in 2006.

Opportunities for reallocating the use of the right-of-way on existing streets are pursued throughout the city. These include restriping to add bicycle lanes, reducing asphalt to widen sidewalks, and adding streetscape improvements such as plazas, benches, street trees, and pedestrian scale lighting. Most recently these opportunities have been realized in the Cambridge Street, Cambridgeport, and Porter Square roadway reconstruction projects and are beginning to be implemented along the Massachusetts Avenue/Lafayette Square corridor and in Harvard Square.

Traffic Calming

The City uses traffic calming to improve the quality of life in neighborhoods and to allow residents and pedestrians to coexist peacefully with cars and other modes of transportation. Traffic calming involves the creation of physical and visual cues, such as raised intersections and crosswalks, curb extensions, and pavement markings, that slow the speed of traffic and increase pedestrian and bicycle safety.

Traffic calming is a priority in areas near elementary schools and playgrounds and in areas where speeding problems are severe. Major construction projects, such as street repaving and sewer reconstruction, create opportunities for incorporating traffic calming elements. Examples of traffic calming projects can be found along Columbia Street, Berkshire Street, and Aberdeen Avenue. Each year traffic calming projects are implemented on several streets in the city.

Infrastructure Improvements

A number of planning studies have resulted in recommendations for infrastructure improvements that are geared towards improving circulation, creating connections, and accommodating pedestrians and bicyclists. In keeping with Policy 22, the City devotes a significant amount of capital resources to implement roadway improvements to enhance conditions for pedestrians, bicyclists and transit users, without increasing through traffic. Major improvement projects are listed below:

Policy 18

Improve MBTA public transportation service within the city including updating routes, schedules, signs, and bus stop placement.

Policy 19

Investigate the feasibility of developing and implementing, within the financial resources of the City, a paratransit system, utilizing taxi cabs where appropriate, in order to supplement the current MBTA system in Cambridge.

Policy 20

Encourage the state transportation and environmental agencies to develop a regional goods movement plan; in the meantime, use the City's limited authority as much as possible to route truck traffic around rather than through residential neighborhoods.

Policy 21

Discourage vehicle travel through residential areas both by providing roadway improvements around the neighborhoods' perimeters and by operational changes to roadways which will impede travel on local streets.

Policy 22

Undertake reasonable measures to improve the functioning of the city's street network, without increasing through capacity, to reduce congestion and noise and facilitate bus and other non automobile circulation. However, minor arterials with a residential character should be protected whenever possible.

Policy 23

Encourage all reasonable forms of nonautomobile travel including, for example, making improvements to the city's infrastructure which would promote bicycling and walking.

Before improvements were made, Massachusetts Avenue had the character of a highway. Pedestrian crossings were very hazardous and there were no provisions for bicyclists.

Central Square

Following the recommendations of the Central Square Committee, the City made significant improvements to the public spaces of Central Square in 1997. Travel lanes were reduced from four lanes to three, which allowed sidewalks to be widened and bicycle lanes to be added. Curb extensions were installed as well, and the cross-

The improved public realm in Central Square, with Carl Barron Plaza in the foreground. Sidewalks were widened and pedestrian crossings were clearly delineated. Bicycle lanes were provided.

ing of Massachusetts Avenue was reduced from an average of 70 feet to an average of 50 feet. Streetscape improvements—including new sidewalks, tree planting, new benches and lighting, and better bus shelters and entrances to the MBTA Red Line station—have made Central Square a more pleasant environment.

Fresh Pond Parkway

Fresh Pond Parkway, which is now owned by the Department of Conservation and Recreation (the former Metropolitan District Commission), underwent a major rehabilitation in 2001 through a cooperative effort of the City and MDC. The roadway reconstruction created pedestrian and bicycle facilities along the parkway with new sidewalks and paths, added four new signalized crossings that make the

recreational facilities around the reservoir accessible by foot or bicycle from the neighborhood, and added new landscaping and lighting. The new multi-use pathways connect to a regional network of lanes and paths, including the Minuteman Bikeway.

Cambridge Street Improvement Project

This project was completed in 2004, with a road redesign incorporating improved pedestrian crossings, traffic calming features, sidewalk reconstruction, curb extensions, and streetscape improvements such as pedestrian scale lighting, benches, and trash receptacles.

Cambridgeport Roadways Project

The principal goal of the Cambridgeport Roadways project is to limit traffic growth on primarily residential streets by improving other means of access to the commercial areas of Cambridgeport, including University Park. The work includes changing Sidney Street to one-way southbound and Waverly Street to one-way northbound.

Finishing the streets and sidewalks in the Cambridgeport Roadways Project.

In addition, there are new connector roadways from those streets to a new intersection on Brookline Street at Granite Street, where a traffic signal has been installed. The design of all streets in the project will improve conditions for walking and biking by providing new sidewalks with curb extensions, landscaping and bicycle lanes, as well as parking. The project also includes extensive stormwater and sewer infrastructure work. Construction was completed in 2006.

Porter Square

The reconstruction of Porter Square was begun in the fall of 2004 and aims to improve conditions for pedestrians (particularly for those crossing at the MBTA Porter Station), bicyclists, and transit users, while facilitating automobile circulation and improving the streetscape. The project includes a reconfiguration of the intersection

at Massachusetts and Somerville Avenues, the addition of multiple new crosswalks, additional crossing time for pedestrians, bicycle facilities, landscaping, and the creation of an artist-designed plaza. The design also includes a new left turn for vehicles exiting the shopping center onto Massachusetts Avenue. Two new crosswalks at Davenport and Allen Streets are included as part of the project to make it easier to walk through the square and to local destinations. Construction was completed in 2006.

Yerxa Road

This project aims to improve public safety by reconstructing the Yerxa Road underpass beneath the Fitchburg Branch MBTA railroad tracks, which carry commuter rail trains through Cambridge to Porter Square and Boston. The project will improve the connection between dense residential areas on the south side of the tracks and the Peabody School, and between numerous community facilities north of the tracks and the MBTA bus line on Rindge Avenue. The reconstruction will make the connection compliant with the Americans with Disabilities Act and will safely and comfortably accommodate both pedestrians and cyclists. It will also incorporate new lighting, landscaping, and a small seating area. The project was completed in November 2006.

Other infrastructure improvement projects that are underway include:

Harvard Square Design

Following some initial work by Harvard Square property owners, the City convened a Design Committee in 2002 to make recommendations on infrastructure improvements. Completed work includes construction of new curb extensions and a crossing island on Mason Street to reduce the length of the crosswalks and reduce the speeds of turning vehicles; an enhanced pedestrian connection to the river by realigning the allee of trees and providing enhanced landscaping along the back edge of the plaza at Eliot Street; and bike parking installation.

Additional improvements begun in 2006 include reconstructed roadways and sidewalks, curb extensions, new crosswalks, wider sidewalks, bicycle facilities, new street trees, new signage and lighting improvements on Church and JFK Streets, expansion of Lampoon Plaza (intersection of Mt. Auburn and Bow Streets), and reconfiguration of Palmer and Winthrop Streets.

Church Street between Massachusetts Avenue and Garden Street will benefit from a widened sidewalk along the south side of the street between Palmer Street and Mass Ave, pedestrian scale lighting, and road resurfacing.

- JFK Street between Memorial Drive and Eliot Street will be reconstructed, with a new road surface and improvements to the brick sidewalks, as well as new lighting fixtures.
- Lampoon Plaza—the wide intersection of Mt. Auburn Street, Bow Street, and Linden Street—will feature a new landscaped island to improve pedestrian safety and to beautify the area.

- Palmer Street between Church and JFK Streets will be transformed from a back alley into a pedestrian destination. It will feature a new patterned roadway surface, in-ground lighting, banners, and an outdoor theater screen for movies in warm weather.
- Winthrop Street between JFK and Eliot Streets will become a "shared street" where sidewalks and street surfaces are on the same level, to enhance the pedestrian environment.

Massachusetts Avenue/Lafayette Square Improvements

This project includes many elements to unify the streetscape and improve conditions for pedestrians and cyclists including new sidewalks, street trees, lighting, street furniture, and bicycle facilities along Massachusetts Avenue between Lafayette Square and the Charles River. The roadway is also being completely reconstructed and repaved, and new traffic lights will better manage automobile movements in the area. At Lafayette Square, a significant new landscaped pedestrian plaza is being constructed with seating, landscaping, and areas where community events may be held. The reconstruction of Massachusetts Avenue and Lafayette Square was begun in early 2005 and is expected to be completed in 2007.

Transit and Paratransit

Cambridge is served by the MBTA Red Line with stops at Alewife, Harvard, Central, and Kendall Stations; by the the Green Line, which terminates at Lechmere Station; and by a series of bus lines. In keeping with Policies 17 and 18, the City is working in partnership with the MBTA to install over 30 bus shelters, about half of which are in new locations, to improve conditions for bus riders and to provide schedule and route information. Installation has begun and will be completed in 2006.

Policy 24

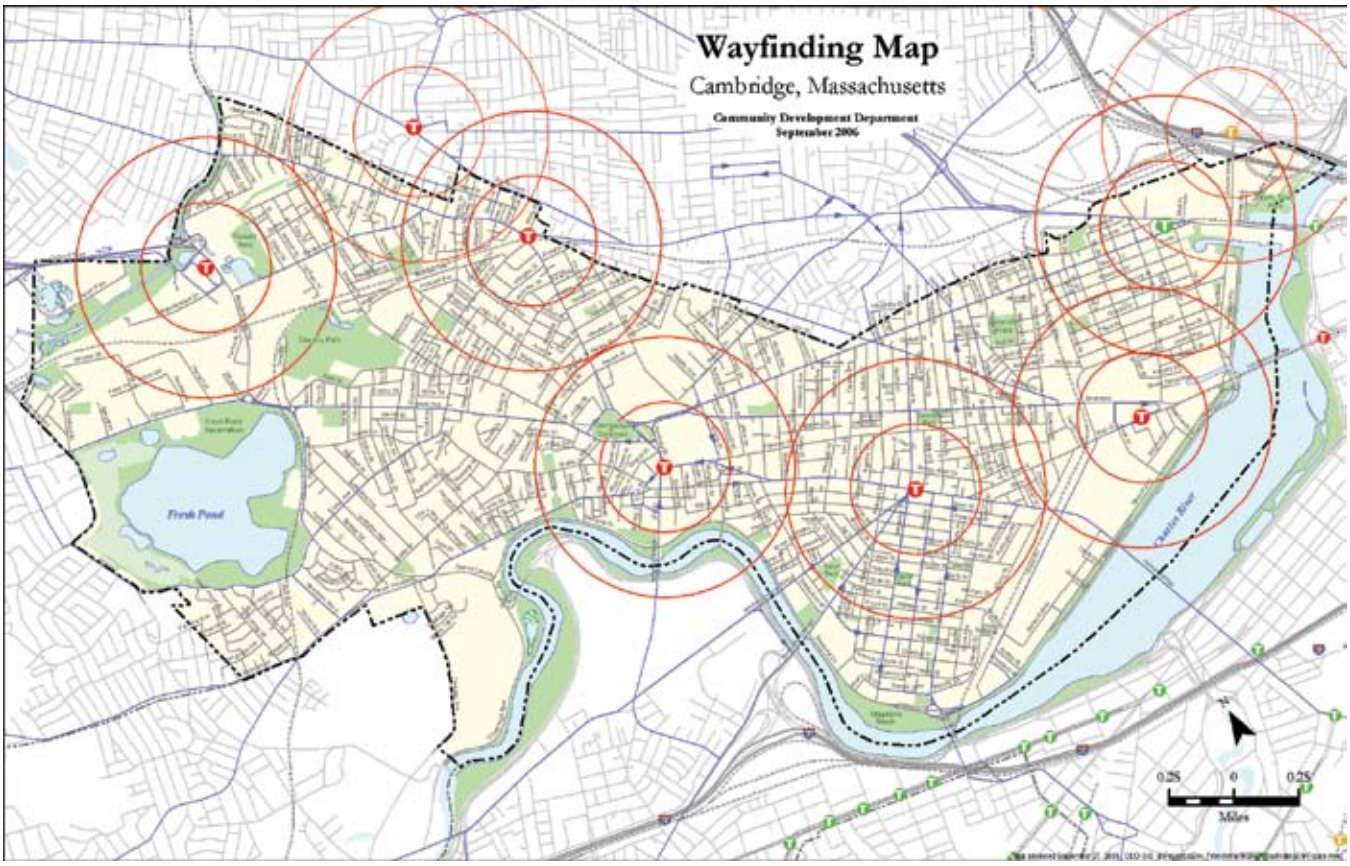
Support regional transportation and land use policies that will improve air quality by reducing dependence on single occupancy vehicles, both through reduction in employment based travel and in other trips taken for nonwork purposes.

Policy 25

Promote the use of truly clean alternative vehicle technologies for necessary vehicle travel particularly in regards to fleets.

The Charles River Transportation Management Association (CRTMA) is a private non-profit organization that provides a variety of transportation services to its members and to others, intended to help improve transportation for Cambridge businesses. CRTMA services include employee shuttles, carpool and vanpool matching, emergency rides home, and pedestrian, bicycle, and transit incentives. Most significantly, in 2002, the CRTMA in partnership with the City started the EZRide shuttle. As suggested in Policy 19, the EZRide provides a paratransit connection that enhances the existing regular transit service provided by the MBTA. By linking North Station, Lechmere, Kendall Square, and University Park, it connects the eastern parts of Cambridge with the Red Line, Green Line, and Commuter Rail, as well as a number of bus lines.

Along with other MBTA communities, Cambridge participates on the Advisory Board that provides public oversight of the MBTA as well as technical assistance and information on behalf of the 175 member communities and the transit riders. As suggested by Policy 24, Cambridge lobbies for transit improvements affecting Cambridge directly as well as for regional improvements that would allow more people to use transit instead of driving to destinations in Cambridge and Boston. City staff meet regularly with MBTA operations and planning staff to advocate good transit service in Cambridge.



The transit stations in Cambridge are shown with walking radii of 1/4 mile and 1/2 mile. Growth policies suggest building upon this excellent urban structure, and minimizing the use of the automobile.

Consistent with Policy 17, which advocates for implementation of regional MBTA transit improvements, City staff members are actively involved in the planning processes for the Urban Ring and the extension of the Green Line. The Urban Ring would improve the circumferential connections among the "spokes" of the T's many radial lines. The project corridor passes through Boston, Chelsea, Everett, Medford, Somerville, Cambridge, and Brookline. The project has been in planning for over a decade, with the first Environmental Notification Form submitted by the MBTA in 2001. The Urban Ring is likely to be implemented in three phases, due to the high cost of the undertaking. As currently envisioned, the Urban Ring would connect the Green and Red Lines through Lechmere and Kendall Stations, and would include a stop in Cambridgeport, before crossing the river into Boston. The next key checkpoint for the phase of the project serving Cambridge will be a draft environmental impact review in late 2007, with the final review scheduled for the end of 2008.

As part of the Central Artery/Tunnel Project project mitigation, the state is committed to creating transit improvements beyond Lechmere Station in the Medford/Somerville corridor. Cambridge's preferred alternative is the extension of the Green Line to Somerville and Medford. The North Point rezoning and conditions of the special permit require that the developer relocate Lechmere Station to the north side of O'Brien Highway to enable this extension. The station relocation is in active planning, with construction anticipated to begin in 2007.